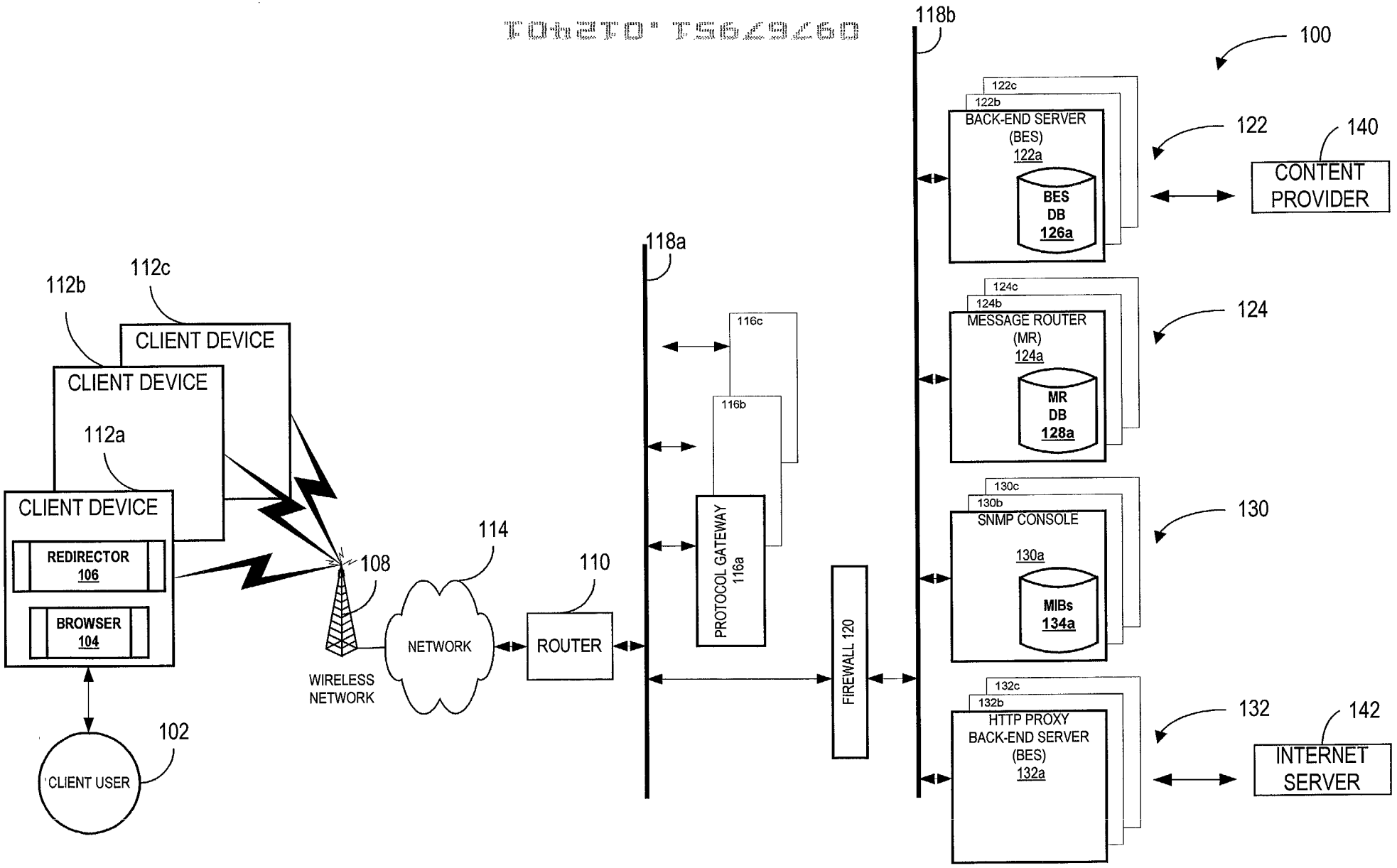
118b
100
122c
122b
BACK-END SERVER
(BES)
122a
BES
DB
126a
122
140
CONTENT
PROVIDER
118a
112b
112c
CLIENT DEVICE
CLIENT DEVICE
112a
CLIENT DEVICE
REDIRECTOR
106
BROWSER
104
116c
116b
PROTOCOL GATEWAY
116a
124c
124b
MESSAGE ROUTER
(MR)
124a
MR
DB
128a
124
130c
130b
SNMP CONSOLE
130a
MIBs
134a
130
114
108
110
NETWORK
ROUTER
FIREWALL 120
WIRELESS
NETWORK
132c
132b
HTTP PROXY
BACK-END SERVER
(BES)
132a
132
142
INTERNET
SERVER
102
CLIENT USER

FIG. 1A

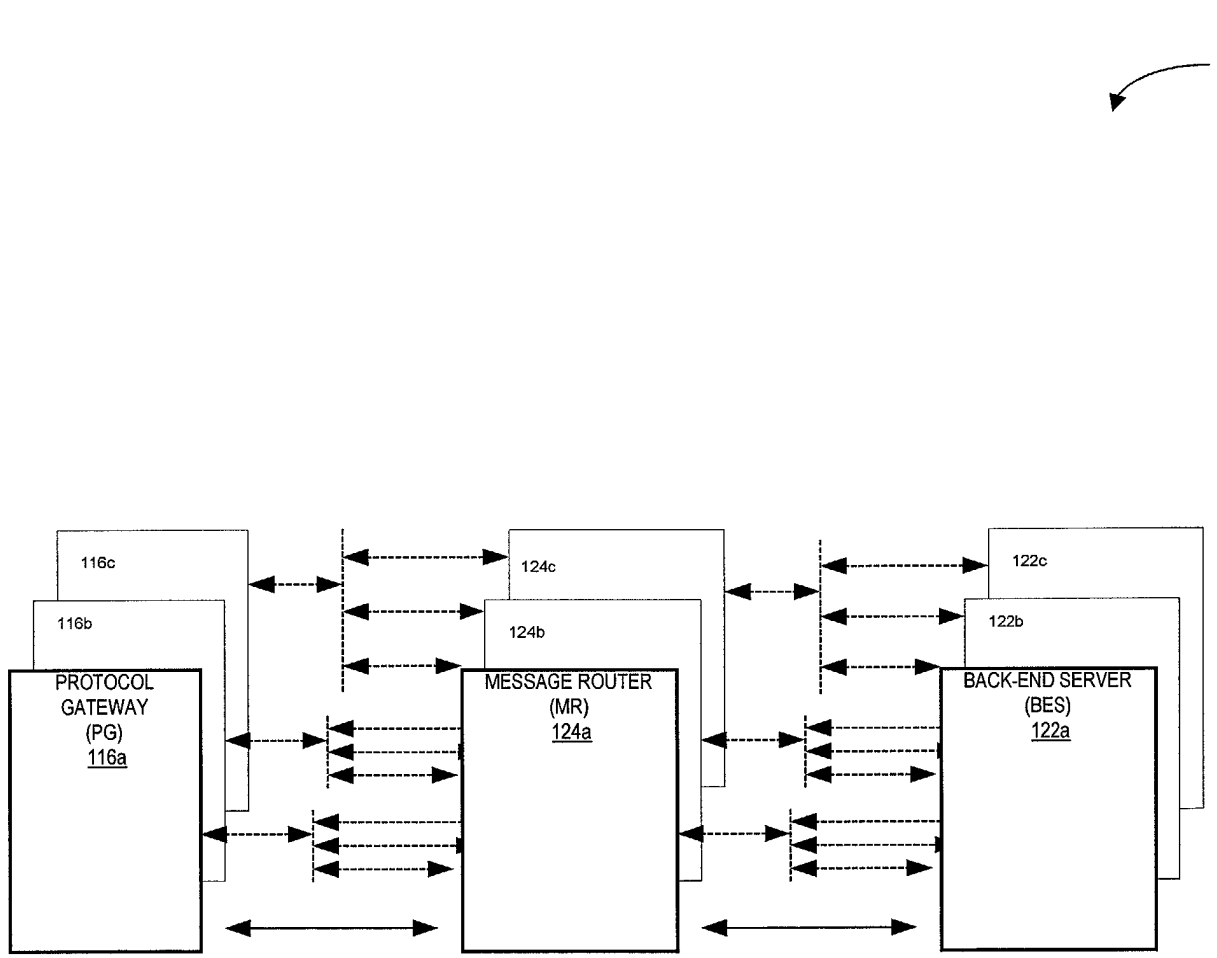
136
116c
116b
PROTOCOL
GATEWAY
(PG)
116a
124c
124b
MESSAGE ROUTER
(MR)
124a
122c
122b
BACK-END SERVER
(BES)
122a

FIG. 1B

TOMTOM EX679760

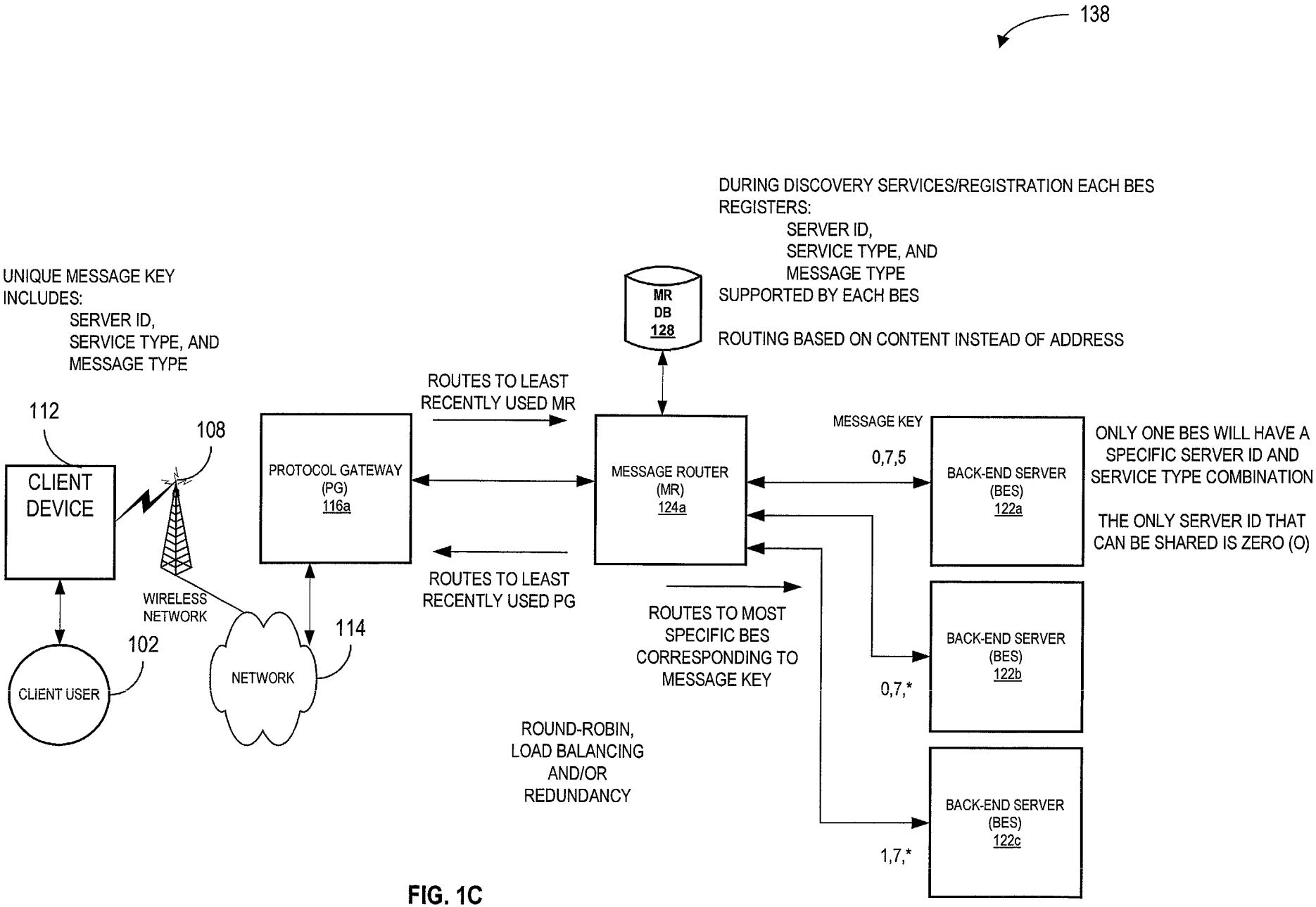

FIG. 1C

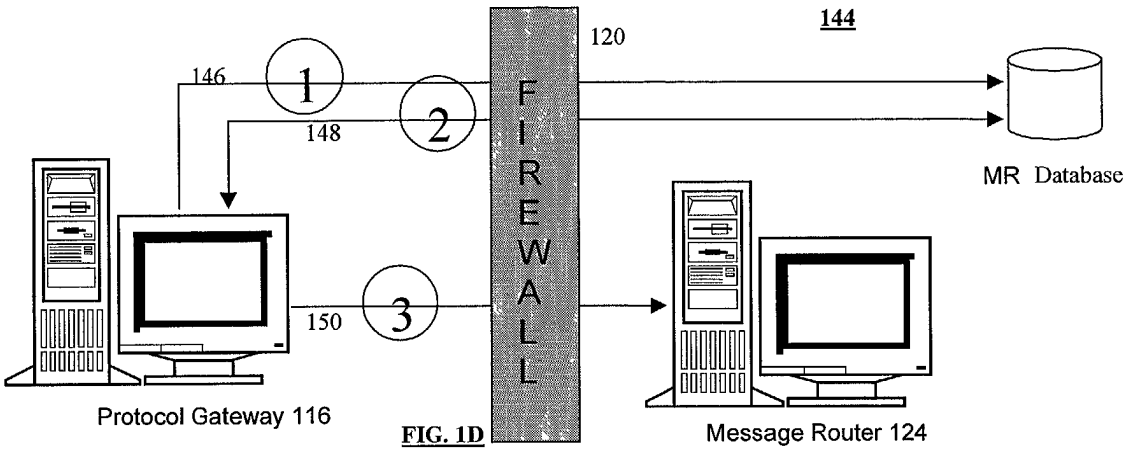
144
120
146
1
148
2
FIREWALL
MR Database
150
3
Protocol Gateway 116
Message Router 124

FIG. 1D

EP 2 787 760 A1

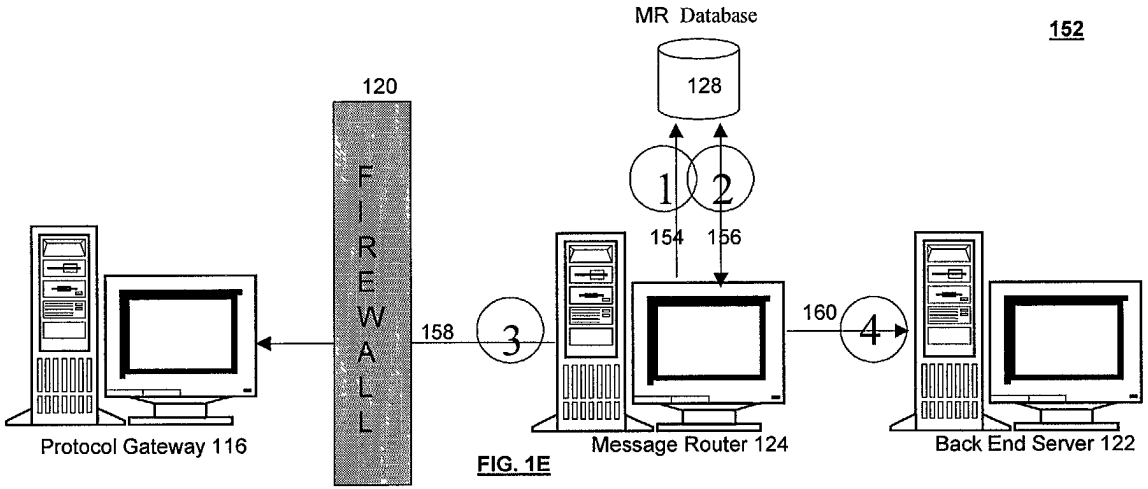

FIG. 1E

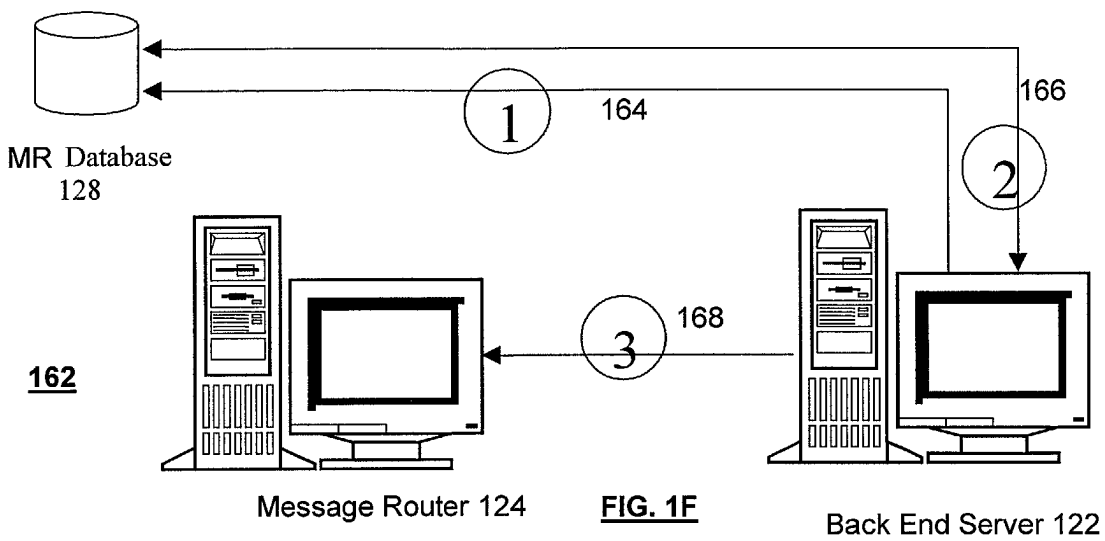
MR Database
128
1
164
166
2
168
3
162
Message Router 124
Back End Server 122

FIG. 1F

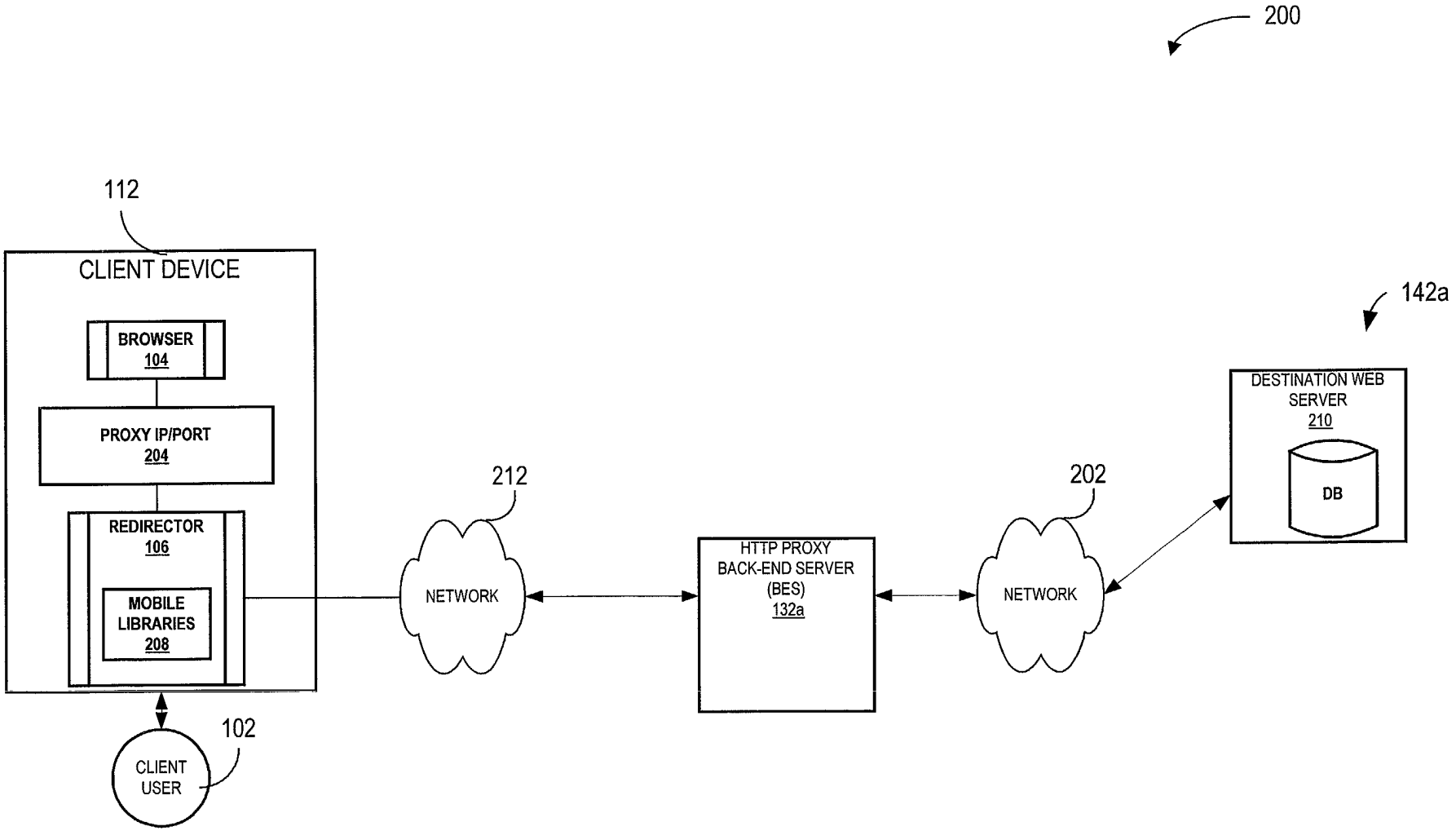
200
112
CLIENT DEVICE
BROWSER
104
PROXY IP/PORT
204
REDIRECTOR
106
MOBILE
LIBRARIES
208
102
CLIENT
USER
212
NETWORK
HTTP PROXY
BACK-END SERVER
(BES)
132a
202
NETWORK
142a
DESTINATION WEB
SERVER
210
DB

FIG. 2

T0h2T0" T562976O

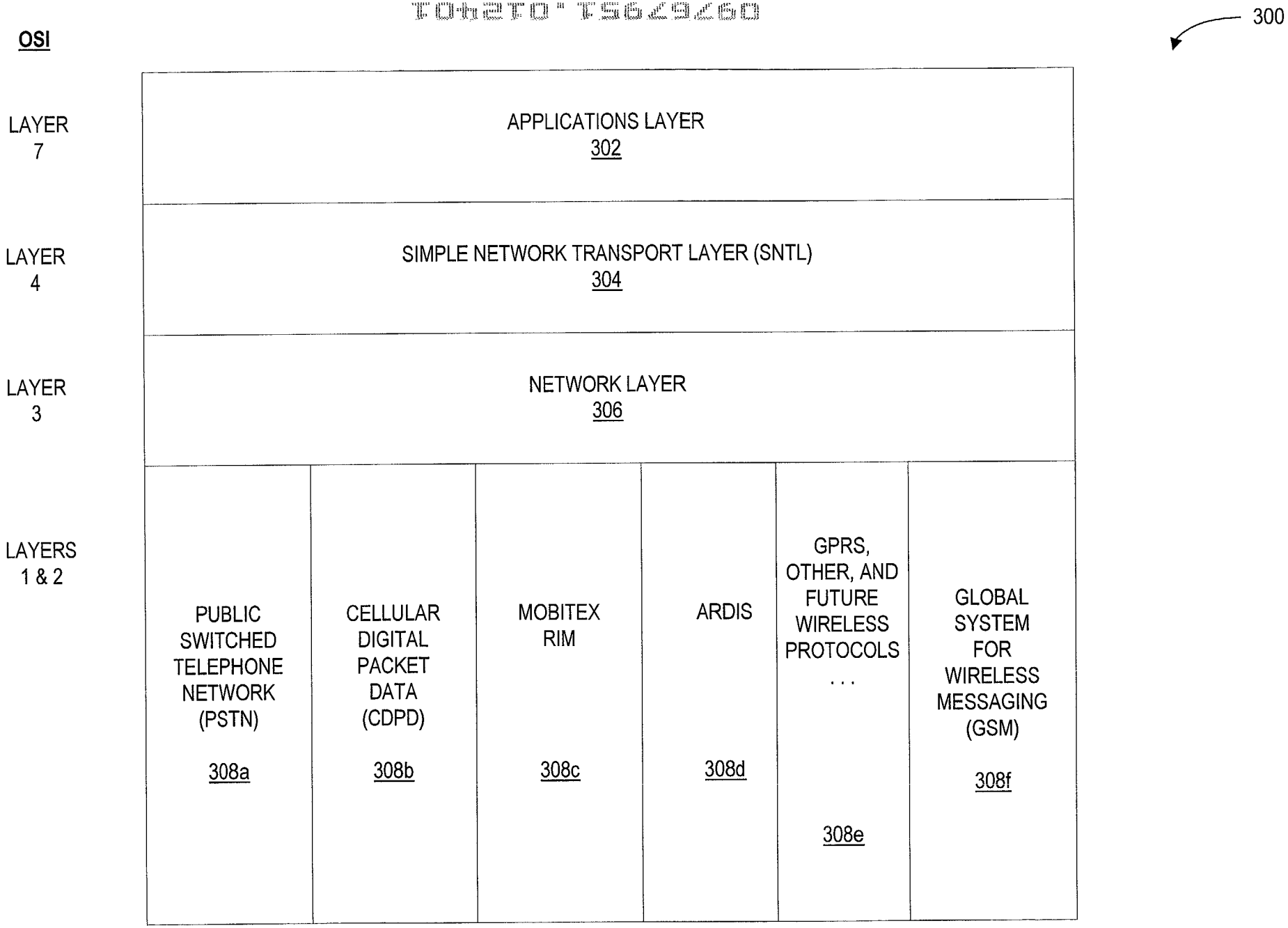

FIG. 3

EP 2 710 760 B1

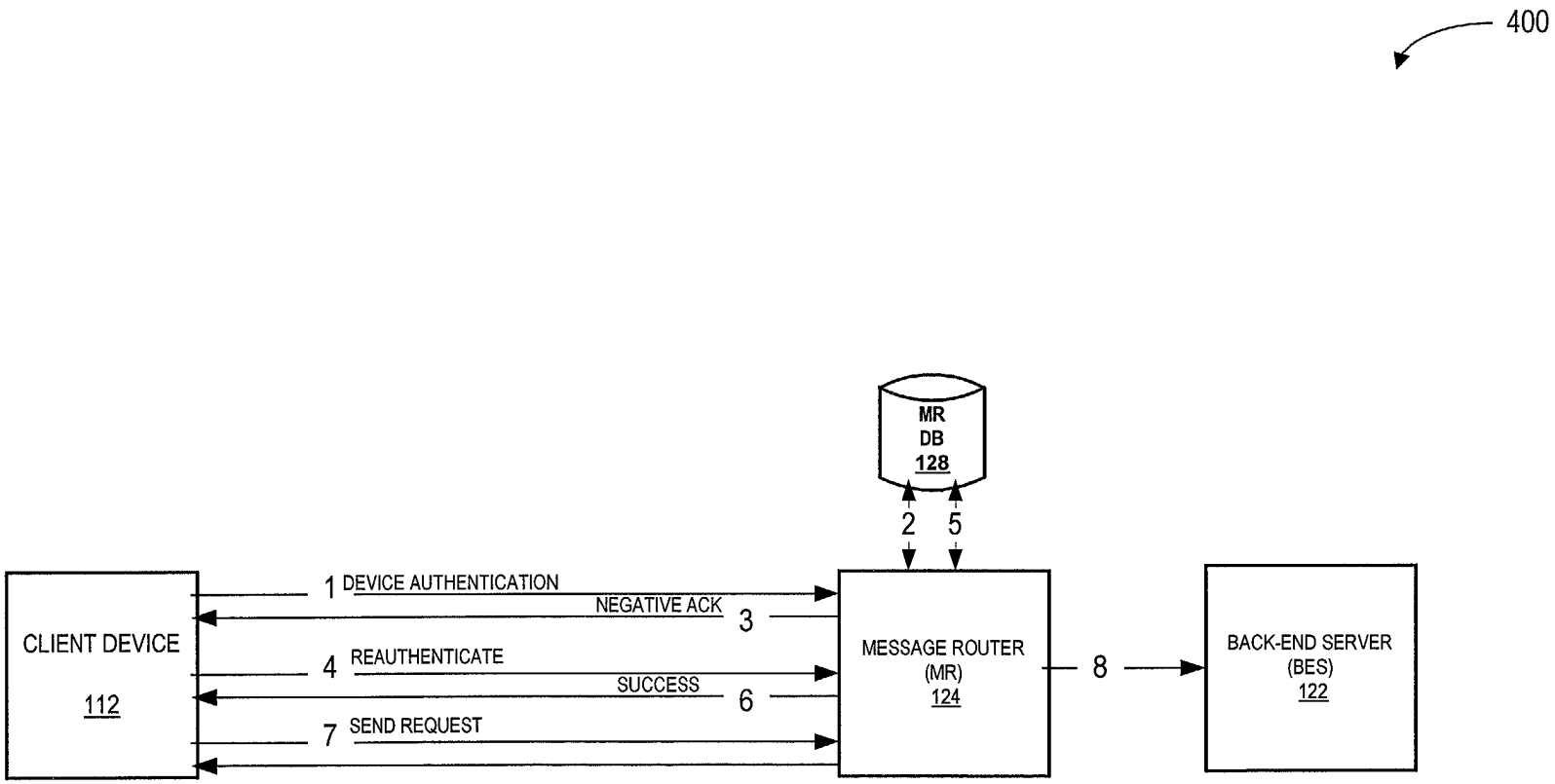

FIG. 4

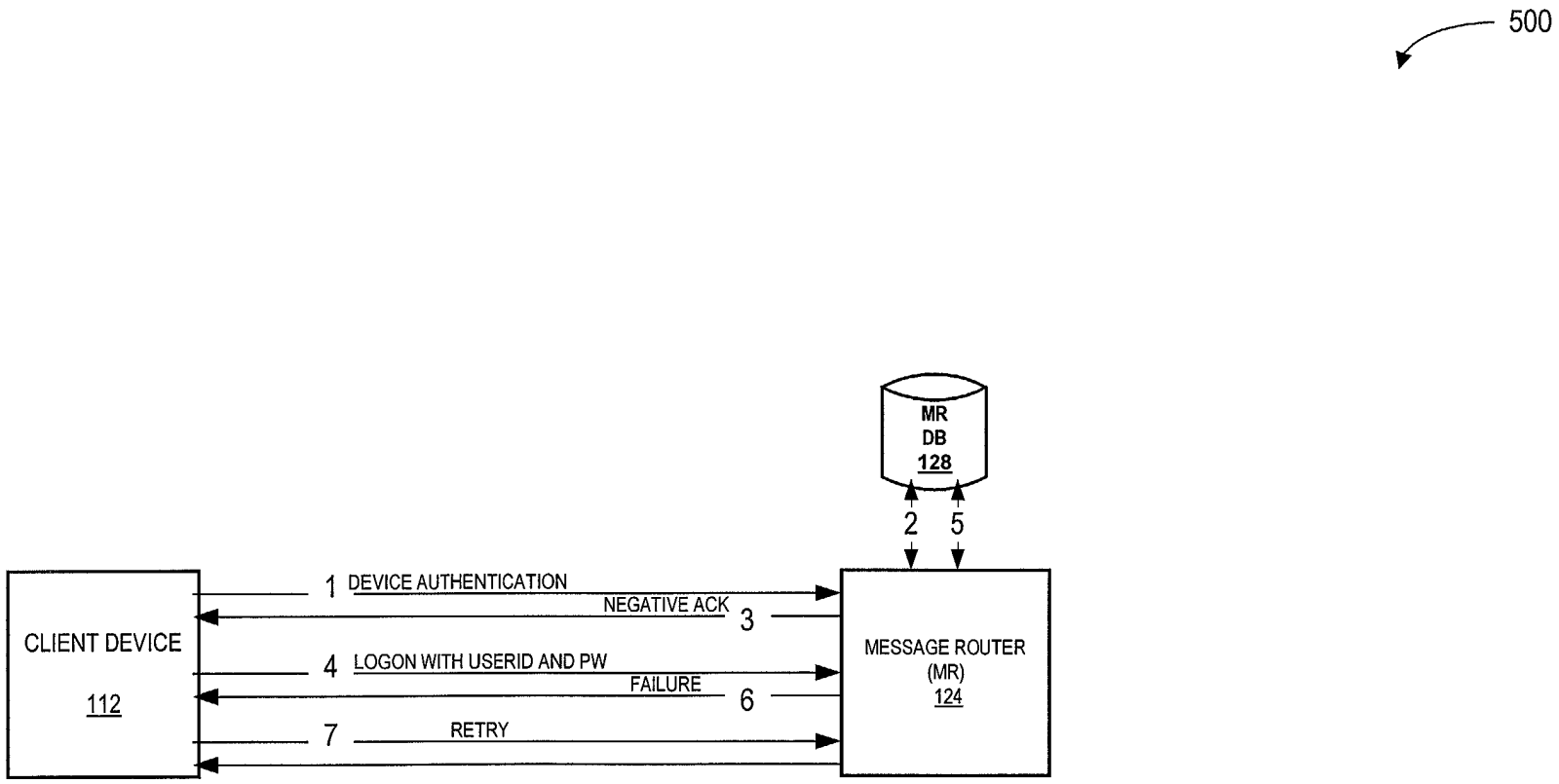
500
MR
DB
128
2
5
CLIENT DEVICE
112
1 DEVICE AUTHENTICATION
NEGATIVE ACK
3
4 LOGON WITH USERID AND PW
FAILURE
6
7 RETRY
MESSAGE ROUTER
(MR)
124

FIG. 5

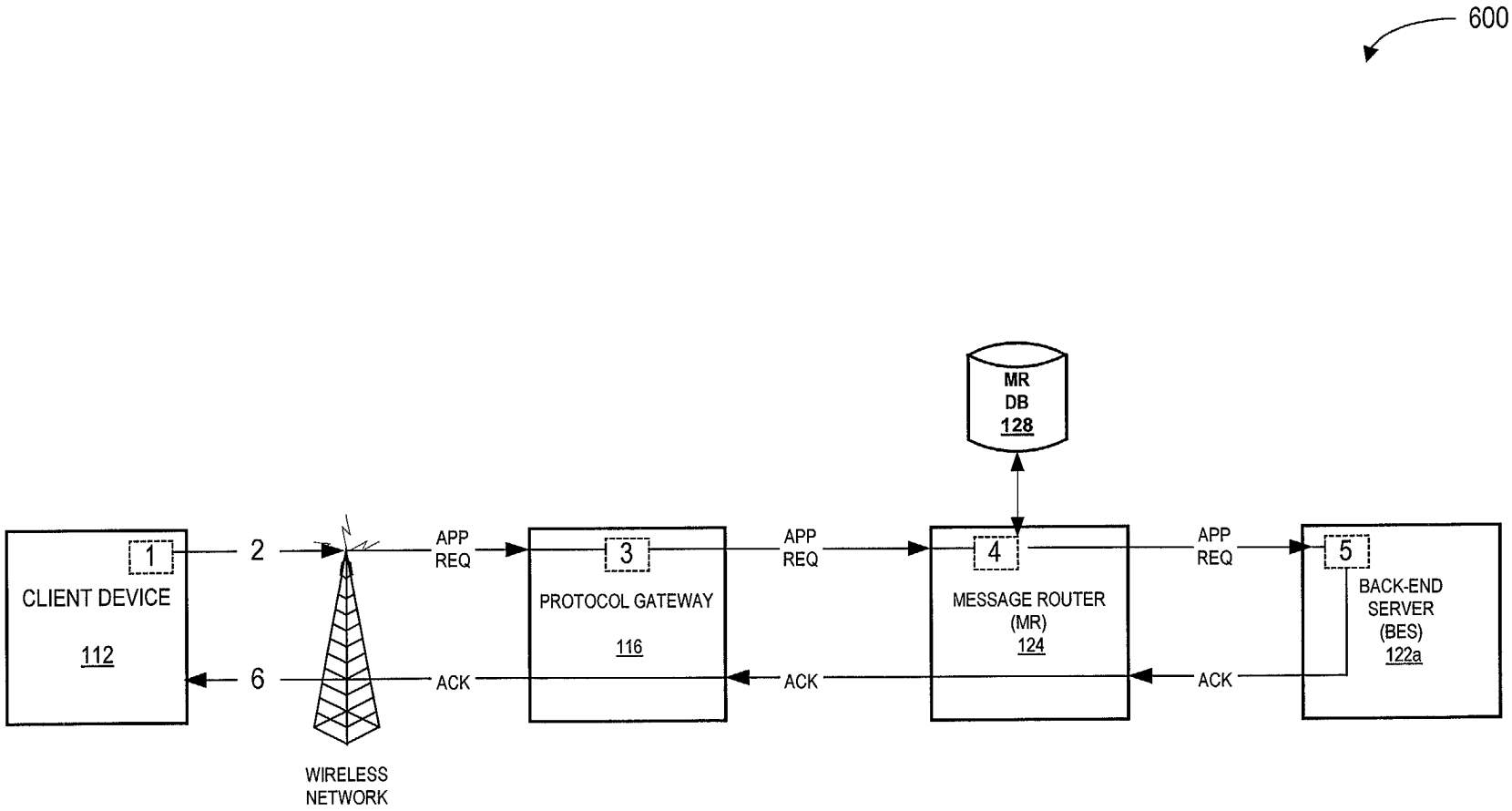
600
MR
DB
128
1
CLIENT DEVICE
112
2
APP
REQ
3
PROTOCOL GATEWAY
116
APP
REQ
4
MESSAGE ROUTER
(MR)
124
APP
REQ
5
BACK-END
SERVER
(BES)
122a
6
ACK
ACK
ACK
WIRELESS
NETWORK

FIG. 6A

602

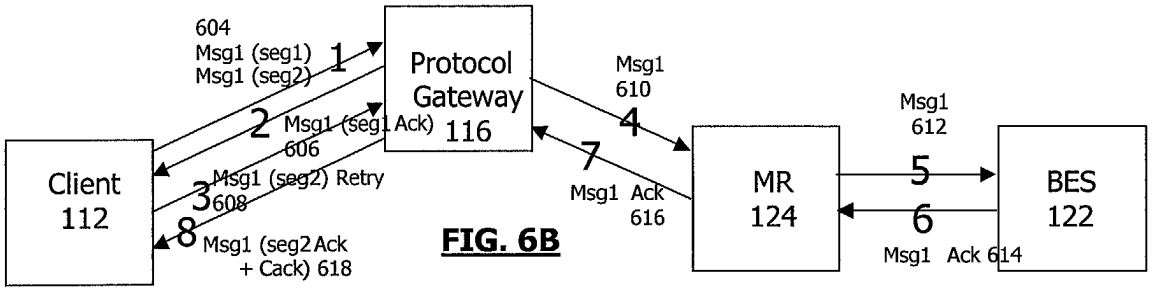
604
Msg1 (seg1)
Msg1 (seg2)
1
Protocol Gateway 116
Msg1 610
4
Msg1 612
5
Client 112
2
Msg1 (seg1 Ack) 606
3
Msg1 (seg2) Retry 608
7
Msg1 Ack 616
MR 124
BES 122
6
Msg1 Ack 614
8
Msg1 (seg2 Ack + Cack) 618

FIG. 6B

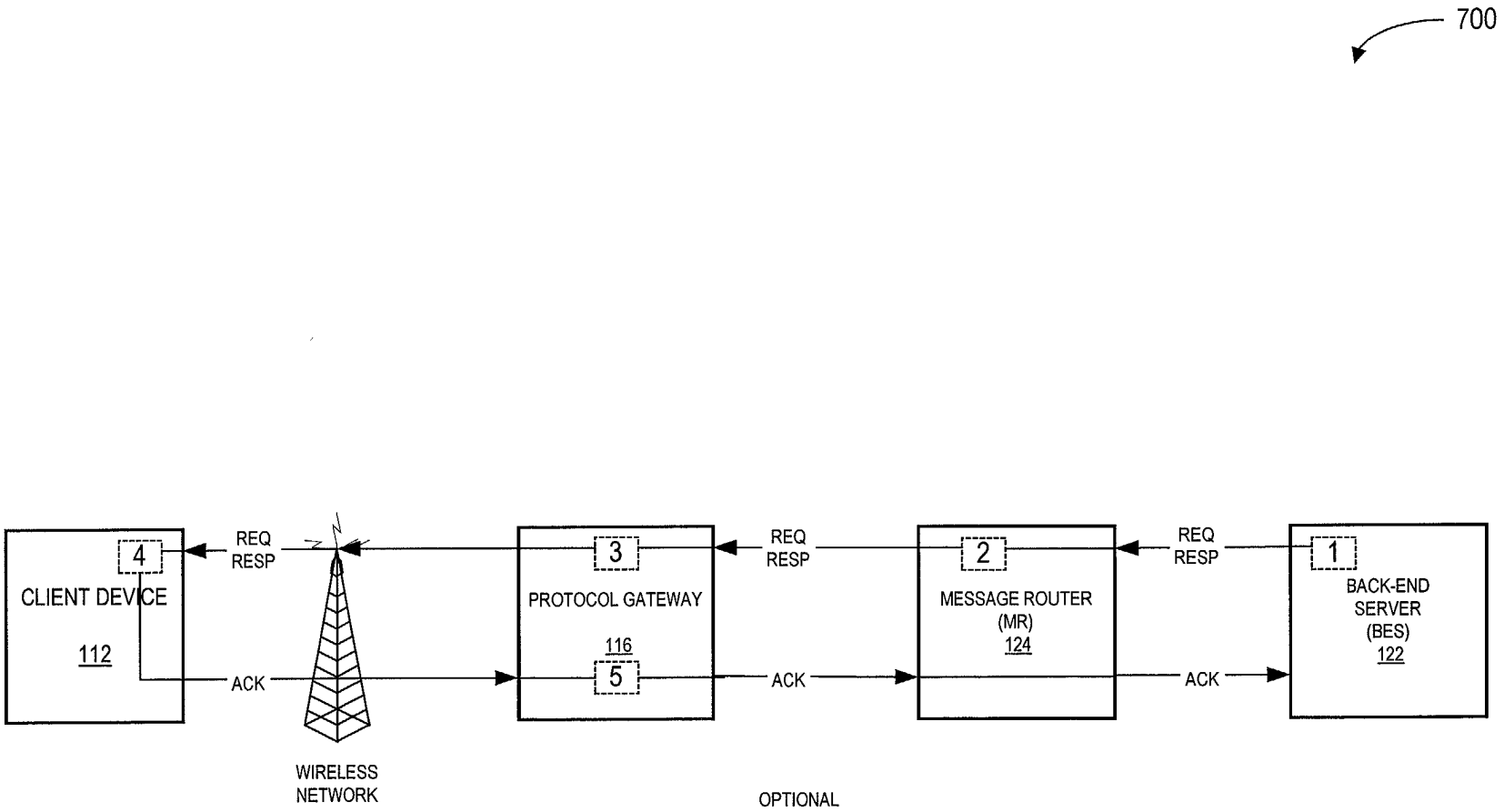
700
4
CLIENT DEVICE
112
REQ
RESP
ACK
WIRELESS
NETWORK
3
PROTOCOL GATEWAY
116
5
REQ
RESP
ACK
2
MESSAGE ROUTER
(MR)
124
REQ
RESP
ACK
1
BACK-END
SERVER
(BES)
122
OPTIONAL

FIG. 7A

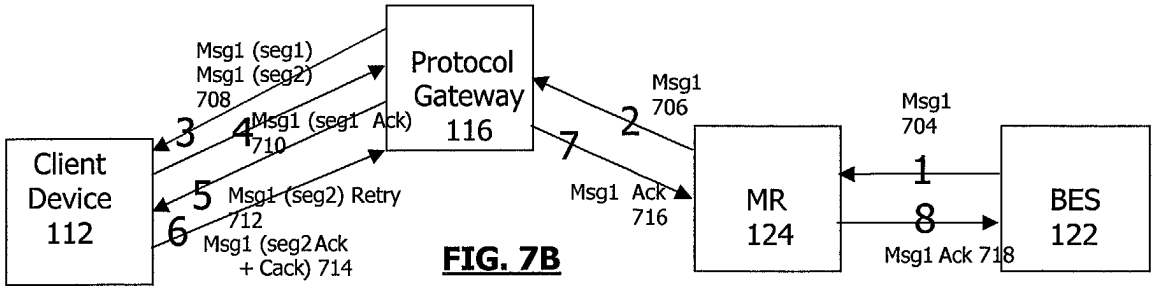
702
Client Device 112
Protocol Gateway 116
MR 124
BES 122
Msg1 (seg1)
Msg1 (seg2)
708
Msg1 (seg1 Ack) 710
Msg1 (seg2) Retry 712
Msg1 (seg2 Ack + Cack) 714
Msg1 706
Msg1 Ack 716
Msg1 704
Msg1 Ack 718
1
2
3
4
5
6
7
8

FIG. 7B

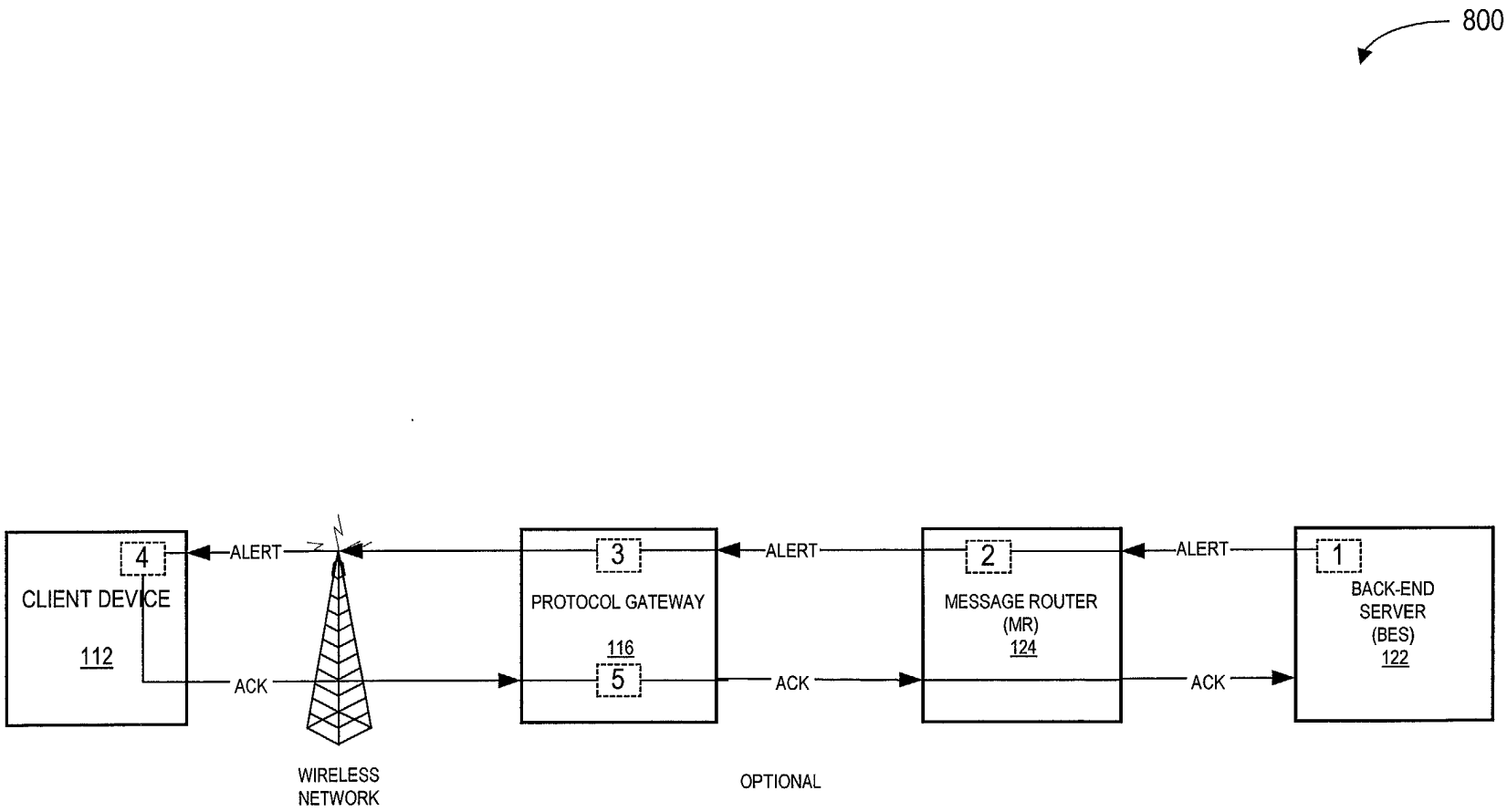
800
4
CLIENT DEVICE
112
ALERT
ACK
WIRELESS NETWORK
3
PROTOCOL GATEWAY
116
5
ALERT
ACK
2
MESSAGE ROUTER
(MR)
124
ALERT
ACK
1
BACK-END SERVER
(BES)
122
OPTIONAL

FIG. 8A

TOHZTO" T9629260

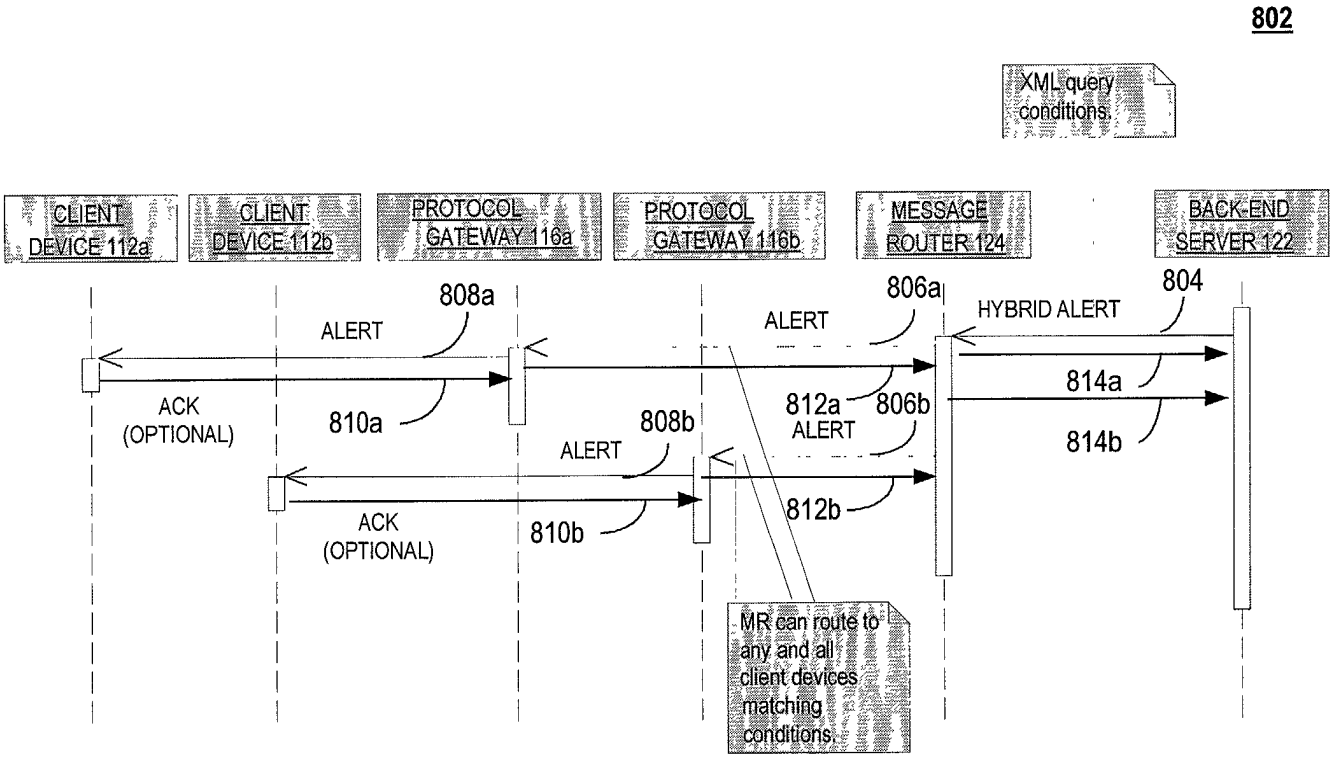

FIG. 8B

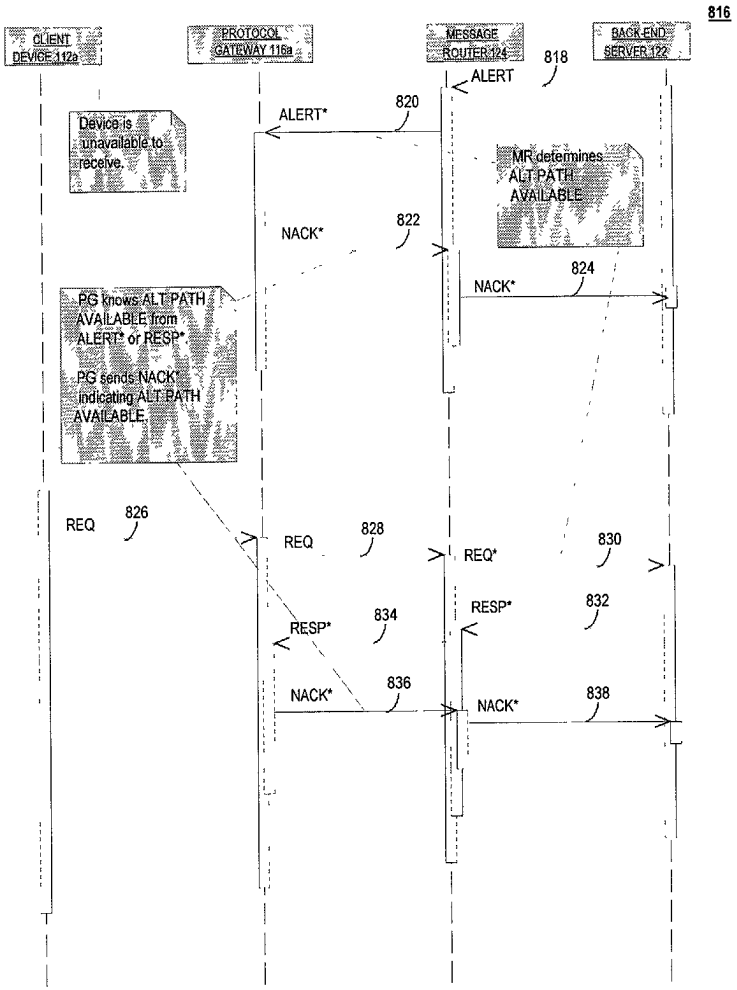
816
CLIENT DEVICE 112a
PROTOCOL GATEWAY 116a
MESSAGE ROUTER 124
BACK-END SERVER 122
ALERT
818
ALERT*
820
Device is unavailable to receive.
MR determines ALT PATH AVAILABLE
NACK*
822
NACK*
824
PG knows ALT PATH AVAILABLE from ALERT* or RESP*
PG sends NACK* indicating ALT PATH AVAILABLE
REQ
826
REQ
828
REQ*
830
RESP*
834
RESP*
832
NACK*
836
NACK*
838

FIG. 8C

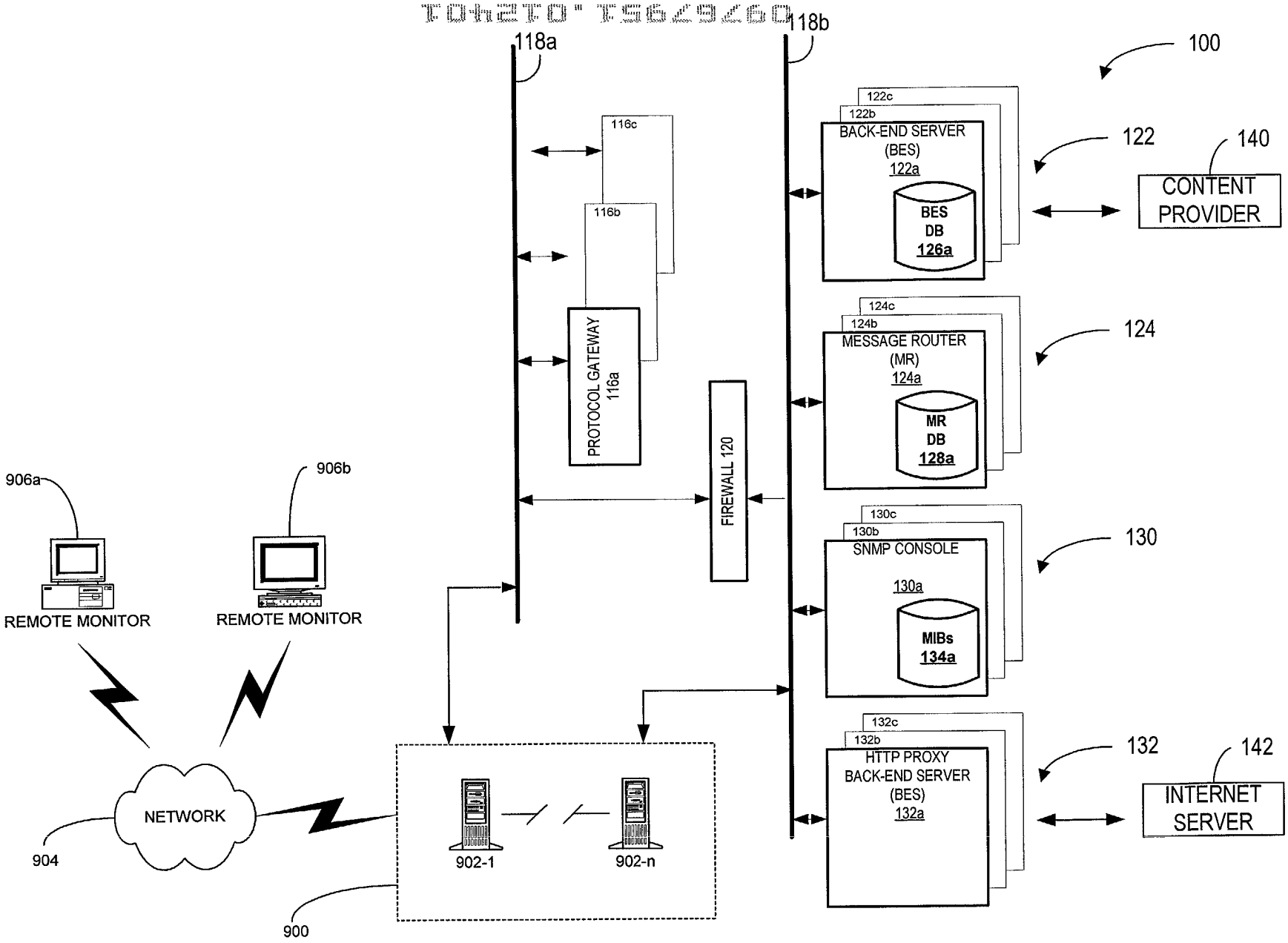
118a
118b
100
116c
116b
PROTOCOL GATEWAY
116a
122c
122b
BACK-END SERVER
(BES)
122a
BES
DB
126a
122
140
CONTENT
PROVIDER
124c
124b
MESSAGE ROUTER
(MR)
124a
MR
DB
128a
124
FIREWALL 120
130c
130b
SNMP CONSOLE
130a
MIBs
134a
130
132c
132b
HTTP PROXY
BACK-END SERVER
(BES)
132a
132
142
INTERNET
SERVER
906a
906b
REMOTE MONITOR
REMOTE MONITOR
NETWORK
904
902-1
902-n
900

Fig. 9A

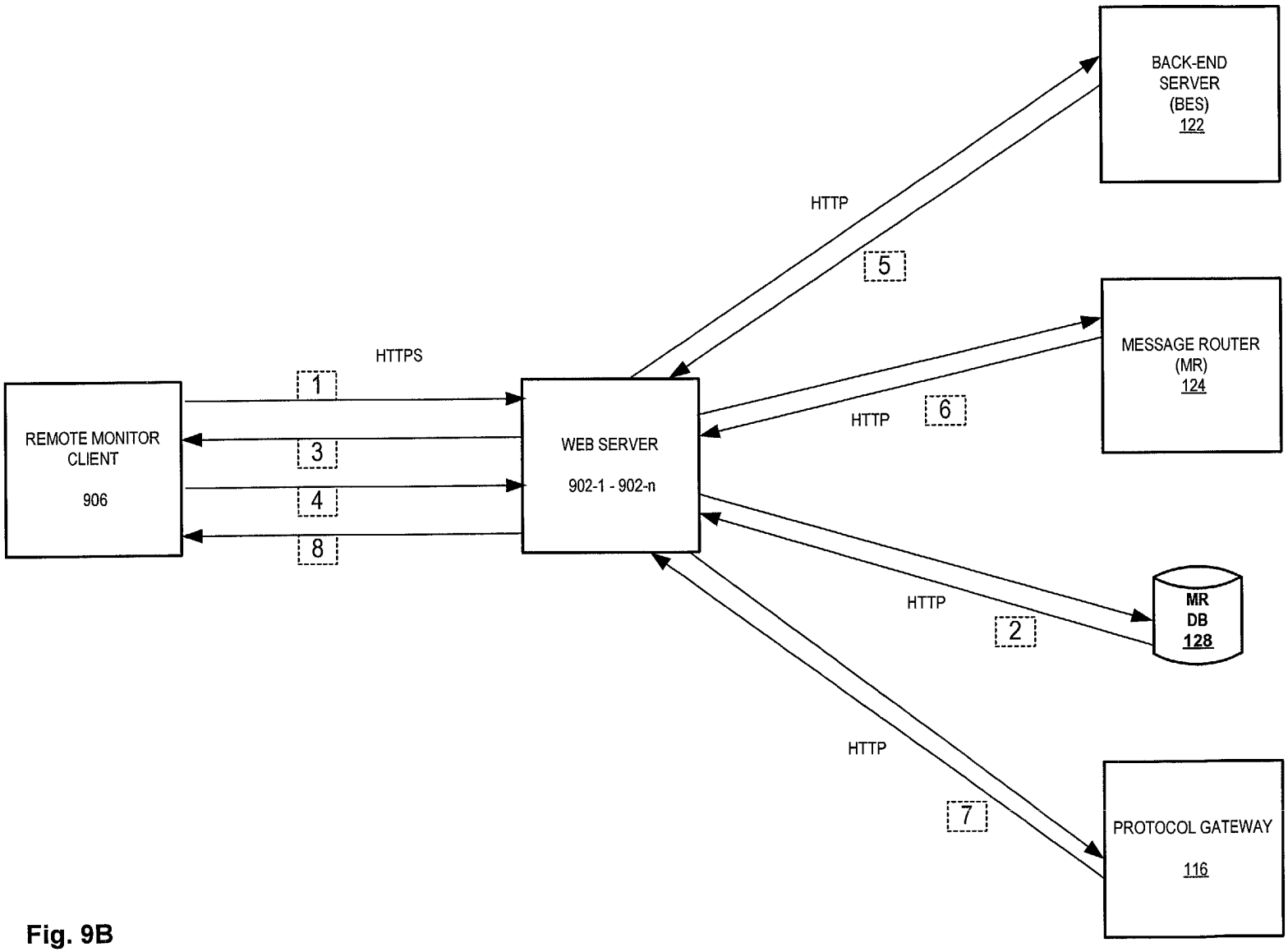
BACK-END
SERVER
(BES)
122
HTTP
5
MESSAGE ROUTER
(MR)
124
HTTPS
1
REMOTE MONITOR
CLIENT
906
3
WEB SERVER
902-1 - 902-n
HTTP
6
4
8
HTTP
2
MR
DB
128
HTTP
7
PROTOCOL GATEWAY
116

Fig. 9B

SCANNED, # 14

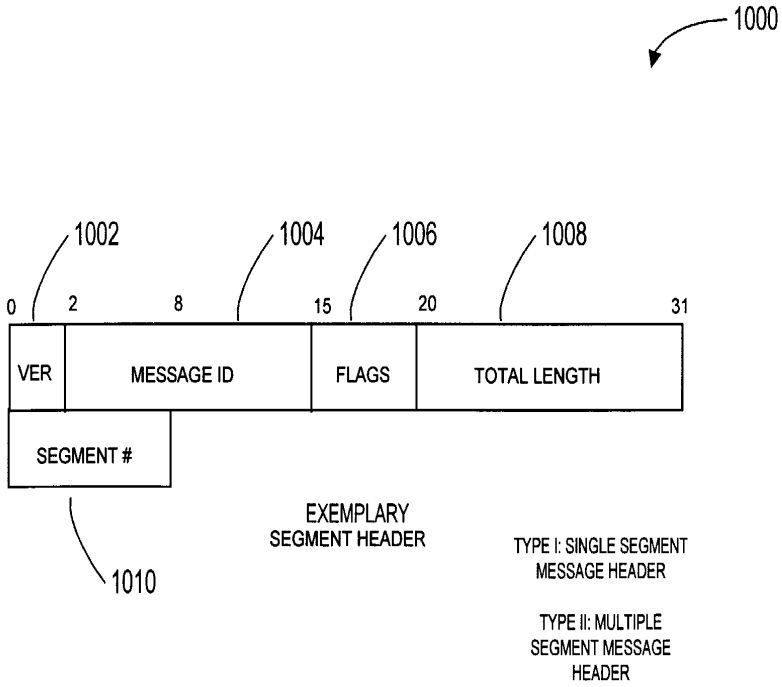

FIG. 10